

**WEATHER CONDITIONS ON THE NORTH ATLANTIC  
DURING JUNE, 1915.**

The data presented are for June, 1915, and comparison and study of the same should be in connection with those appearing in the REVIEW for that month.

Chart IX (XLIV-71) shows for June, 1915, the averages of pressure, temperature, and the prevailing direction of the wind at 7 a. m., 75th Meridian time (Greenwich mean noon), together with the locations and courses of the more severe storms of the month.

**PRESSURE.**

The distribution of the average pressure for the month as shown on Chart IX was abnormal in many respects. The pressure was unusually high and the gradients weak, as north of the 30th parallel the average barometric readings ranged from 29.96 to 30.13 inches, while under normal conditions the range would be from about 29.80 to 30.30 inches. The Azores high was of less intensity and covered a much larger area than usual, and no well-developed low existed in the vicinity of Iceland, although a shallow depression covered a large area in the northern part of the ocean. While the average pressure gradients were remarkably uniform the variation from day to day was quite marked in many localities. In the northern part of the ocean, west of the 20th meridian, the pressure was comparatively low in the first three and the last two days of the month, and high in the middle decade. In the 5-degree square between the 55th and 60th parallels and the 35th and 40th meridians the barometric readings ranged from 29.32 inches on the 1st to 30.37 inches on the 16th, and the variation was nearly as large in the waters adjacent to the Canadian coast. From the 21st to the 24th, in the vicinity of the Bermudas, the pressure was considerably below the average for the month, while during the same period, in the area covered by the Azores high, it was above the average, and the extreme range for the month was about normal.

**GALES.**

June, as a rule, is comparatively free from gales, and the month under discussion was, taken as a whole, no exception, although in some localities the percentage of gales was slightly above the normal; but in the majority of cases it was below. In the 5-degree square between the 40th and 45th parallels and the 40th and 45th meridians the normal percentage of gales is 7, while during June, 1915, the percentage was 13. The same conditions held true in the square between the 45th and 50th parallels and the 35th and 40th meridians, while in the waters adjacent to Cape Hatteras gales were reported on three days, which is slightly above the normal. The distribution of gales throughout the month, in different portions of the ocean, was very irregular, as north of the 45th parallel most of them occurred in the first part of the month, while south of that line the first decade was remarkably free from winds of gale force, none being reported until after the 15th.

Only one storm track has been plotted on Chart IX, although there were a number of cyclonic disturbances whose paths were too indefinite to show accurately on account of lack of observations or otherwise. On Chart III (XLIH-59, MONTHLY WEATHER REVIEW, June, 1915), a low is shown that first appeared on the evening of May 28 in southwestern Arizona. This

moved in a nearly easterly direction, and on the morning of June 1 was central over Pensacola, the depression being shallow and the winds light. During the 2d and 3d the disturbance moved to the vicinity of Hatteras, becoming much more pronounced than on the 1st. While the winds on the 2d varied from light to moderate, on the 3d they had increased in velocity, as a number of vessels reported gales of from 40 to 55 miles an hour. The low moved in an easterly direction and on the 4th the center was about 5° west of Bermuda; winds of gale force still prevailed along the shore near Hatteras, although the storm area was somewhat less than on the previous day. It continued in its easterly movement and on the 5th the area of low pressure surrounded Bermuda, where the barometer began to rise and the winds abate in force. The low then began to fill in, and its position was too uncertain to plot during the next two days, while no trace of it could be seen on the 8th. This track is not shown on Chart IX owing to the uncertainty of its movement after June 2.

From June 9 to 13 a low existed in the vicinity of the Gulf of St. Lawrence, although no winds of gale force were reported until the 13th when one vessel near St. Johns, Newfoundland, encountered easterly winds of 50 miles an hour. Fog prevailed over a portion of this area from the 9th to the 11th. On the 14th this low was central near latitude 39°, longitude 49°; the isobars surrounding the center were nearly circular in form and the winds were from light to moderate in force. This depression remained nearly stationary during the next two days, and on the 16th a number of vessels near the 39th parallel and the 52d meridian reported northerly gales.

A low of slight intensity and surrounded by light to moderate winds covered a large part of the territory between the 40th and 50th parallels and the 10th and 40th meridians during the period from June 17th to 22d. Bermuda was the center of another slight depression on the 21st which moved in a northerly direction and on the 22d was near latitude 42°, longitude 60°; the barometer fell to 29.46 inches and the force of the wind increased near the center, while fog was reported in the northeast quadrant. The low then separated into two sections, and on the 23d one part was central near Halifax, Nova Scotia, and the other near latitude 41°, longitude 48°. Both areas had moved about 5° toward the east by the 24th, and on the 25th only one was within the limits of the chart, this being central near St. Johns, Newfoundland.

The wind was moderate over the entire North Atlantic ocean during the three days from the 23d to the 25th, and fog prevailed during the period off the banks of Newfoundland. A shallow depression covered a large area in the vicinity of the British Isles from the 25th to the 29th, although it varied in extent between those dates. On June 28 a low (I on Chart IX) of 29.74 inches was central near latitude 40°, longitude 59°. This was of limited extent and the cyclonic circulation around the center was very marked, although no winds of high velocity were reported. This moved rapidly in an easterly direction and on the 29th was near latitude 42°, longitude 49°; the barometer had fallen to 29.23 inches and the wind increased in force, as several vessels near the center, and southwest of it, reported gales of from 40 to 55 miles. The low then curved toward the northeast and on the 30th the approximate center was near latitude 50°, longitude 40°, although it was impossible to plot it accurately on account of lack of observations. The storm

was of limited area, although two vessels about 8 degrees south of the center experienced westerly and southwesterly gales of over 60 miles an hour, which was the highest wind velocity reported during the month. The disturbance continued in its northeasterly course and on July 1 was near latitude 52°, longitude 35°. It had increased in area and decreased in intensity, although winds of 40 miles were still encountered in the south and southwest quadrants. The Low moved but little after July 1 and on the 2d was fast filling in.

## TEMPERATURE.

North of the 20th parallel and west of the 30th meridian the average air temperatures for the month were from 1° to 4° above the normal, the largest positive departures occurring in the waters along the northern European coast and decreasing toward the south. North of the 30th parallel and between the 30th and 55th meridians the departures were, as a rule, slightly negative, although there were some exceptions, and south of the 30th parallel the temperatures seldom varied more than a degree from the normal.

In the waters adjacent to the American coast, between St. John's and northern Florida, the departures ranged from -2° to 0°; while at Key West they were slightly positive, and similar conditions held true in the greater part of the Gulf of Mexico.

The temperature departures for June, 1915, at a number of Canadian and United States Weather Bureau stations on the Atlantic and Gulf coasts were as follows:

	° F.
St. John's, Newfoundland.....	-2.6
Sydney, C. B. I.....	-2.8
Halifax, N. S.....	-2.0
Eastport.....	-1.2
Portland.....	-3.4
Nantucket.....	-0.3
New York.....	-1.9
Washington.....	-2.1
Norfolk.....	-3.1
Hatteras.....	-2.8
Charleston.....	-0.5
Key West.....	+0.4
Pensacola.....	+1.2
New Orleans.....	+4.2
Galveston.....	+1.7
Corpus Christi.....	+1.8

The lowest temperature reported during the month was 36° and occurred on the 3d in the 5-degree square

off the coast of Labrador. The highest temperature in this square was 51° on the 26th.

Along the coasts of the British Isles the temperatures varied from 48° to 62°, while in mid-ocean the range was somewhat less. The highest temperature recorded was 84° and occurred on a number of days in the Caribbean Sea.

## FOG.

During the period from 1901 to 1906 for the month of June the average percentage of days with fog off the banks of Newfoundland was from 60 to 65 per cent, while in the same region for June, 1915, it was observed on from 10 to 11 days, a percentage of from 30 to 33. Off the island of Nantucket the normal percentage of fog is from 40 to 45, while for the month under discussion it was 23. Along the middle and eastern portion of the northern sailing routes the percentage was slightly below the normal.

## PRECIPITATION.

No hail or snow was reported during the month.

## Maximum wind velocities, June, 1916.

(Velocities below 50 mi./hour (22.4 m./sec.) are not included here.)

Stations.	Date.	Velocity.	Direction.	Stations.	Date.	Velocity.	Direction.
		<i>Mis./hr.</i>				<i>Mis./hr.</i>	
Buffalo, N. Y.....	9	58	sw.	Mount Tamalpais, Cal.....	21	58	nw.
Cairo, Ill.....	18	50	sw.	Do.....	22	66	nw.
Canton, N. Y.....	18	54	sw.	Do.....	23	58	nw.
Charlotte, N. C.....	6	64	w.	Do.....	24	52	nw.
Do.....	20	72	w.	Do.....	27	50	nw.
Cheyenne, Wyo.....	23	54	w.	Do.....	28	52	nw.
Dallas, Tex.....	26	55	ne.	Do.....	22	52	nw.
El Paso, Tex.....	4	52	w.	New York, N. Y.....	2	52	nw.
Erie, Pa.....	21	52	sw.	Do.....	16	53	se.
Grand Forks, N. Dak.....	22	70	se.	Do.....	22	52	nw.
Hatteras, N. C.....	3	64	nw.	Norfolk, Va.....	21	75	nw.
Jacksonville, Fla.....	29	50	sw.	North Head, Wash.....	30	52	se.
Little Rock, Ark.....	5	52	s.	Oklahoma, Okla.....	14	61	n.
Louisville, Ky.....	8	54	w.	Do.....	20	56	ne.
Memphis, Tenn.....	6	50	sw.	Pensacola, Fla.....	13	56	s.
Milwaukee, Wis.....	2	56	se.	Point Reyes Light, Cal.....	3	52	nw.
Mount Tamalpais, Cal.....	4	52	nw.	Do.....	8	67	nw.
Do.....	5	52	nw.	Do.....	9	66	nw.
Do.....	7	61	nw.	Do.....	19	55	nw.
Do.....	8	92	nw.	Do.....	20	66	nw.
Do.....	9	68	nw.	St. Paul, Minn.....	22	56	se.
Do.....	19	54	nw.	Savannah, Ga.....	7	50	w.
Do.....	20	56	nw.	Sioux City, Iowa.....	22	60	nw.
				Wichita, Kans.....	5	52	ne.